

although the precise form may vary, the chip carrier 22 of the present invention generally includes the following components: (1) dielectric layers including filled bodies 9; (2) electrically conductive layers 16; (3) plated through holes 28; (4) solder chip connectors 26; (5) ball grid array solder connector 27; (6) electrically conductive pads 30; and (7) thermosetting resin 12' now used as a solder mask. The integrated circuit chip 24 is coupled to the chip carrier 22 through the solder connectors 26.

In the Claims:

Please cancel claims 26, 28, 34, 38, and 44. Currently pending claims 23-25, 27, 29-33, 35-37, 39-43, and 45-50 are as follows based on the amendment herein, wherein claims 23, 27, 33, 35, 37, 39-43, and 45 have been amended as marked up in Appendix A, and wherein claims 46-50 are new.

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B2 C1
23. (AMENDED) A method for forming a device, comprising the following steps:

providing a fluoropolymer matrix having particles therein;

coating a thermosetting resin on the fluoropolymer matrix;

processing the fluoropolymer matrix with the resin coated thereon such that material from the resin impregnates the fluoropolymer matrix, leaving a remaining layer of resin on a surface of the fluoropolymer matrix, wherein the remaining layer of resin comprises material of the resin that has not impregnated the fluoropolymer matrix; and

laminating the resin-impregnated fluoropolymer matrix to a conductor, wherein the fluoropolymer matrix is interfaced between the conductor and the remaining layer of resin

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following said laminating.

24. The method of claim 23, wherein the fluoropolymer matrix is nonfibrillated polytetrafluoroethylene.

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25. The method of claim 23, wherein the particles are inorganic particles.

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27. (AMENDED) The method of claim 23, wherein a portion of the thermosetting resin is coated onto the conductor following the laminating step.

*N.E.
Cancelled*
28. (AMENDED) The method of claim 23, wherein the conductor and the remaining layer of resin are disposed on opposite sides of the resin-impregnated fluoropolymer matrix following the laminating step.

29. The method of claim 23, wherein the conductor is copper.

*See original
Claim*
30. The method of claim 23, wherein the thermosetting resin is provided in a sheet that is positioned between the fluoropolymer matrix and the conductor.

31. The method of claim 23, wherein the thermosetting resin includes a contrasting dye.

32. The method of claim 23, wherein the device is a printed circuit board.

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33. (AMENDED) The method of claim 23, wherein the device is a chip carrier.

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35. (AMENDED) The method of claim 23, wherein the thermosetting resin includes solvent.

36. The method of claim 35, further comprising the step of heating the coated fluoropolymer matrix to remove the solvent from the thermosetting resin, prior to the laminating step.

37. (AMENDED) The method of claim 23, further comprising the step of subjecting the fluoropolymer matrix to a plasma process, prior to the coating step.

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39. (AMENDED) The method of claim 23, wherein the thermosetting resin contains about 30-75 percent solids.

40. (AMENDED) The method of claim 23, wherein the laminating step comprises applying heat and pressure.

41. (AMENDED) The method of claim 40, wherein the heat is applied at 120-250° C during the laminating step.

42. (AMENDED) The method of claim 40, wherein the pressure is applied at 100-700 PSI during the laminating step.

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43. (AMENDED) The method of claim 23, wherein the fluoropolymer matrix is impregnated with the thermosetting resin, prior to the providing step.

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45. (AMENDED) The method of claim 35, further comprising the steps of:

coating the conductor with the thermosetting resin, prior to the laminating step; and
heating the coated conductor to remove the solvent from the thermosetting resin.

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46. (NEW) The method of claim 25, wherein the inorganic particles are evenly distributed throughout the fluoropolymer matrix.

47. (NEW) The method of claim 25, wherein the inorganic particles are spherical in shape.

48. (NEW) The method of claim 47, wherein the inorganic particles have a diameter of less than about 10 microns.

49. (NEW) The method of claim 23, wherein the thermosetting resin comprises inorganic particles, and wherein the inorganic particles of the thermosetting resin do not impregnate the fluoropolymer matrix during the processing step.

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50. (NEW) The method of claim 23, wherein the conductor and the remaining layer of resin are disposed on opposite sides of the resin-impregnated fluoropolymer matrix following the laminating step.